Perceptions of Artistically Gifted Rural Middle School Adolescents Regarding Support for Development of their Talent by their School and Community

Gayle B. Roege
Creative Erg, LLC., USA

Abstract

This case study explored artistic journeys of six artistically gifted middle school adolescents in rural Montana, USA, in order to ascertain the perceived level of support offered by their schools and communities, for developing their talent. Two primary questions guided the qualitative research, and related to: 1) student perceptions of personal talent and 2) their perceptions of how their schools and communities encourage or inhibit the development of their talent. Three overarching themes—experience, time, and opportunity—emerged during analysis and provided categorical organization for findings related to: a) the students' emotional connection to the experience of art-making; b) the expressive power adolescents perceived being granted through their art; c) the importance of family encouragement and support of their personal talent; d) the internet as a community to which adolescents belong; e) temporal factors related to developing talent; and f) the adolescents' view of the timeline of opportunity. A crucial component of maintaining personal commitment to one's talent area is support. Adolescents believed support from family was adequate, but the support from school and community was lacking. An unforeseen outcome was a perceived lack of time to pursue the talent area.

Keywords: Adolescents; artistically gifted; rural environments; talent development

As definitions become broader and more inclusive as they relate to giftedness, creativity, and talent, misconceptions still prevail, regarding the development of *artistic* talent; and lack of knowledge pertaining to quality, availability, and outcomes of art experiences persists in rural public schools (Talbot, 2009). There are approximately three million identified gifted children in the United States, representing roughly six percent of the total school population nationwide, yet no data exist identifying the number of artistically talented youth; albeit it is likely that some of the academically gifted also possess artistic talent (National Association for Gifted Children [NAGC], 2008). The NAGC (2012) *State of the Nation in Gifted Education* report served as a call to action emphatically stating:

> Developing and supporting high levels of talent in every area requires national, systemic attention by all stakeholders. This is a commitment we have not seen in more than two generations…[T]o thrive in the 21st century we need a renewed commitment to excellence and development of talent, and help[ing] students achieve beyond grade level [is] necessary to restore the assets lost and place our nation on more solid footing in an increasingly competitive global ecosystem.

An emphasis on the of 21st century's creativity challenge—more aptly, creativity *crisis*—(Kim, 2012) pervades discussions in business and society and ultimately affects expectations for education (Hennessey & Amabile 2010; Pink, 2005) particularly in the visual arts (Robinson, 2010).

The study was premised upon the demonstrated demand for talent that can offer innovative solutions to today's problems; the increasing evidence of creative clusters in rural environs; and the critical developmental needs of adolescents. The study grew out of nearly three decades of my experience working with academically and artistically advanced students and observing the lack of attention being given on a large scale to developing artistic talent in particular. The purpose of the study was to reveal those artistic journeys of adolescents to better understand from their perspective how external support mechanisms did or could impact that talent.

Theoretically, although education should be about talent development, schools were not designed to value and promote creativity; their purpose has been to institutionalize learning and generate a predictable outcome (Rolling, 2013). Today, even as the conversation about innovation grows, emphasis continues to be on standardization rather than recognizing and rewarding excellence and creativity, which marginalizes artistically talented youth. Small rural schools face especially unique hurdles in terms of what they can offer in the way of appropriate experiences for artistically talented students (Clark & Zimmerman, 1999). In Montana, USA where the study was conducted, only 45 of the nearly 10,000 teachers statewide held credentials in any type of gifted education (Shupert, personal communication, March 3, 2015) making talent recognition and development a challenge. However, rural schools and communities can, when partnering to serve students in practical and useful ways, make opportunities accessible that help encourage that development (Colangelo, Baldus, & New, 2003; C. Howley, 2009). "Rural" is not just an "ism." Rural communities are not just smaller versions of urban areas, but are significant influencers of talent and are becoming magnets for creative clusters. It is important to recognize the cultural benefits of the community to avoid the deprivation of talented individuals that happens when *rural* is viewed as a disadvantage, making outmigration to urban locales the goal for talented students (A. Howley, C. B. Howley, & Pendarvis, 2003; Rakow, 2005).

All talented individuals appear to pass through three basic stages that lead to development of talent: a) love of subject; b) development of discipline and technique; and c) individual position in the field (Bloom & Sosniak, 1981). Where the natural progression of ability due to maturation stops, appropriate intervention can guide further development (Vygotsky, 1978)—especially during early adolescence, a critical time of adjustment in the brain's structure and function. Those who work with teens intuitively know this but may be unaware of the potential this time period offers. For example, the neural fibers of the corpus callosum connecting the two hemispheres of the brain undergo significant physical growth, expanding the actual grey matter where learning takes place. This alters the function of the brain, opening a window of opportunity at approximately age 12 for new knowledge and skill-building that is short-lived. This proliferation begins to taper off by about age 16, eventually closing that window (Barnea-Goraly et al., 2005)**.** Understanding differences in interests is essential to being able to encourage talent development and relates to the choices students have among several potential areas of talent as well as decisions students make about them during mid-adolescence (Bloom & Sosniak, 1985). External influences (families, peers, community, institutions—and the value society places on a given domain at a given time, whether perceived or real) tend to contribute either positively or negatively to how the adolescent perceives and is able to develop his/her own talent (Clark & Zimmerman, 1988; Dai & Schader, 2002; Evans, Bickel, & Pendarvis, 2000; Rakow, 2005).

Increasing the chance that rural students find appropriate resources to develop their talent, today's technological capabilities make access to distant sources of advancement and enrichment more likely; however, this option is too often considered in isolation of localizing opportunities.

Conceptual Framework

Context (referred to as "place" in the study), is an essential element of creativity in any form because individuals cannot be isolated from their environments (Plucker & Barab, 2005). According to Csikszentmihalyi (1988):

> [Creativity] is the product of three main shaping forces: a set of social institutions, or *field*, that selects from the variations produced by individuals those that are worth preserving; a stable cultural *domain* that will preserve and transmit the selected new ideas or forms to the following generations; and finally the *individual*, who brings about some change in the domain, a change that the field will consider to be creative…so the question 'where is creativity?' cannot be answered solely with reference to the person and the person's work... [it] is a phenomenon that results from interaction between these three systems (p. 325-326).

This is important because the rural context in the study is the place wherein the three systems reside. Artistic talent was conceived as a natural creative gift which has been developed to some degree based upon a number of factors and conditions (Gagné, 2008; Getzels & Csikszentmihalyi, 1976;

Katzko & Mönks, 1995). In Figure 1, the environment or milieu (the rural community) is the predominant factor of talent development which hosts all other factors embodied within it; and serves as a catalyst of talent development.

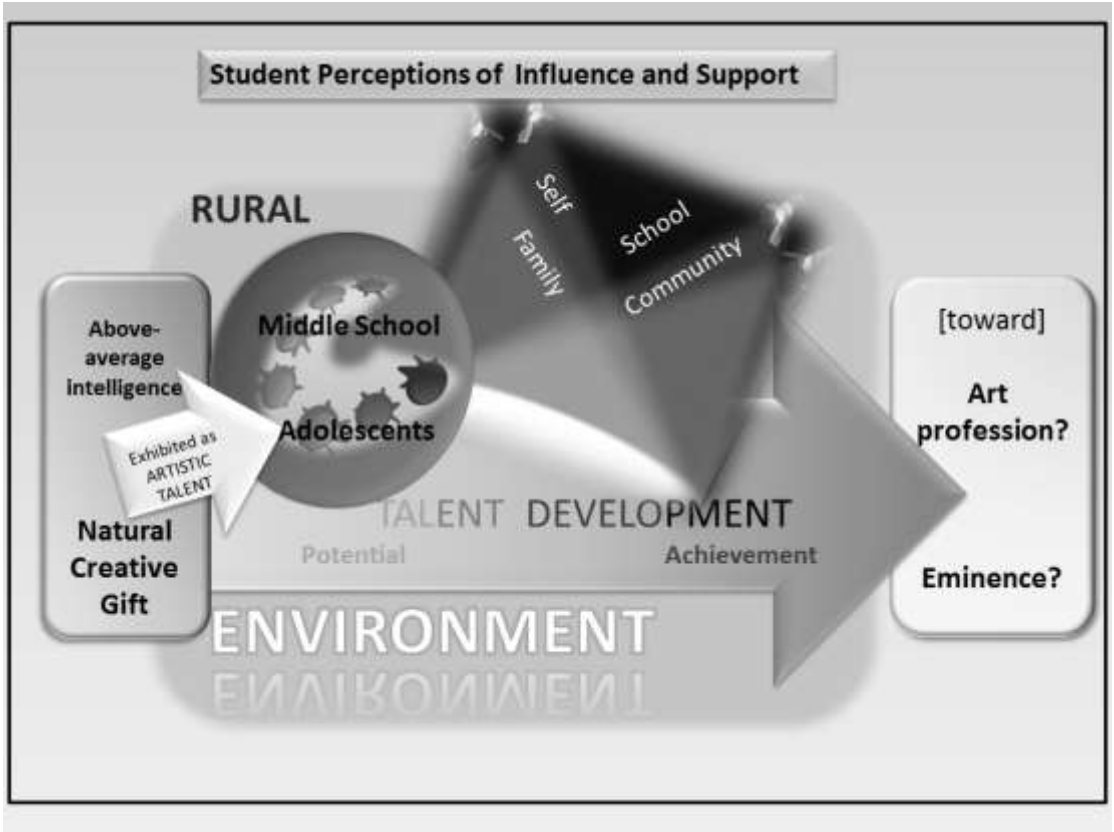

Figure 1: Conceptual model of the study of adolescent perceptions related to influences on personal talent development in rural communities. Adapted from DMGT (Gagné, 2008).

Creativity is considered a motivating and energizing factor of unfolding talent in any domain (Khatena, 1992; Pfeiffer & Thompson, 2013). However varying conclusions across different studies related to the same aspect of creativity are often a result of the effect of semantics (Plucker & Makel, 2010). In my study, the constructs of giftedness, creativity, and talent development were operationalized as overlapping and interdependent. Figure 2 illustrates how the multidimensionality of giftedness connects the three components. Natural (innate) untrained gifts are present as either intellectual or creative ability and comprise the first of the two primary strands of giftedness. How these abilities are exhibited in a specific domain forms the second, or *talent* strand of giftedness (Callahan, 2009). Domain-specific talent, represented as manifested giftedness, depends upon a variety of factors including the genetic make-up, and environmental forces which serve to influence development in some way; the nuanced and complex intrapersonal traits; and finally, the broader social conventions that place some level of value on particular types of creativity (Csikszentmihalyi, 1988, 1996; Csikszentmihalyi, Rathnude, and Whalen, 1997; Gagné, 2008; Subotnik, Olszewski-Kubilius, and Worrell, 2011). The intricately patterned graphic in Figure 2 represents the complexities (related to the relationships of the influencing factors capable of moving talent along a trajectory) that are unique to each person (Subotnik et al., 2011) and appear to apply differently in separate domains within which talent can be developed (Bloom, 1985; Eisner, 2002). Tubular shapes extending from the intertwining pattern in the model represent those separate domains; but because artistic talent was the focus of this study, no other domains were labeled. Giftedness and talent were considered mutually reinforcing with creativity embedded within each as represented by the yin yang.

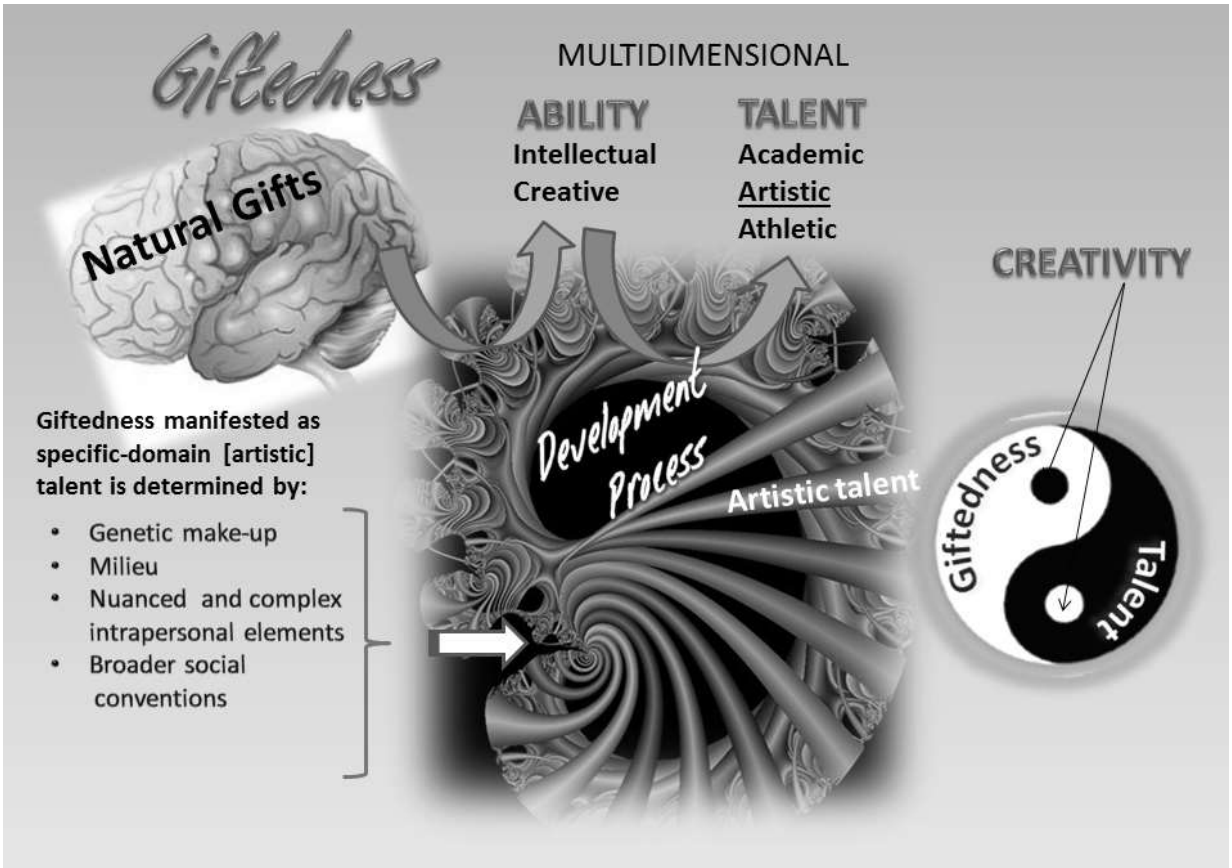

Figure 2: Giftedness, Talent, and Creativity, Operationalized.

Methodology

Participants

Purposive case selection resulted from an initial pool of students referred by individual professional artists, art teachers, parents, and students. Because there was no standard definition for artistic giftedness specifically, the most widely-accepted definitions for giftedness in general, at the state and national levels were used as basis for selection. In addition, supplemental criteria—above average ability, creativity, and task commitment—taken from the Schoolwide Enrichment Model (Reis & Renzulli, 2010; Renzulli, 1978; Renzulli & Reis, 1985; Renzulli & Reis, 2014) were included in the selection process. Students who are artistically gifted typically demonstrate their talent in a variety of contexts (home, school, community) therefore, my study invoked input from knowledgeable members of the students' community, because "dependence on teachers does not exclude the possibility that underachieving or achieving in venues outside of school will be missed" (Csikszentmihalyi et al., 1997, p. 47).

All participants were enrolled in a rural middle school in one of three different communities. The selected schools and communities were all in the state of Montana in the northwest region of the United States. Two of the schools (referred to in this study as School A and School C) are located in western MT; the third school (School B) is on the eastern side of the state. Nearly 80% of the state's counties maintain "frontier" status (geographic isolation and low population density) according to the US Census Bureau (2010) and the Montana Office of Rural Health, (2012). The state (with a massive 147,164 square miles—making it slightly larger than the size of Japan) averages fewer than six people per square mile. Currently, the average ratio of students to a full-time-equivalent (FTE) teacher across the state is 12:1. Two of the school districts were comparable with respect to socio-economic status and minority populations and closely matched state averages for those categories as indicated in Table 1 and 2 below.

Table 1: Montana State Demographics (2014-15).

State Population	Population Density	Ethnicity (2014)					Free/reduced lunches
		White	Black	American Indian	Asian	Hispanic	Public schools
1, 023, 579	6.8/sq. mile (from 2010 census report)	89.7%	0.6%	6.6%	0.8%	3.5%	43.20%

Table 2: Breakdown of School District Demographics (2015).

Public School	County Pop. Density (2010 census report)	$7^{th}/8^{th}$ grade enrollment	Minority populations	Free/reduced lunches	Student/ teacher ratio
A	16.8/sq. mile	195	11%	42.6%	13:1
B	5.0/sq. mile	58	1%	10%	15:1
C	16.8/sq. mile	233 in 7^{th} & 8^{th} grades. (middle school includes 6^{th}, for total of 423)	11% (6^{th}-8^{th})	50.6%	16:1

My intent was for a balanced gender representation to be achieved within the sample group; however, this was not accomplished. Therefore, findings could represent a slight bias related to female preference in the sample. Table 3 offers a glimpse of the backgrounds of the six participants.

Table 3: Participant Background Information.

Item	Category	School A N=1	School B N=3 (Frequency %)	School C N=2	Total (Frequency %)
Gender	Male	0 (0%)	1 (33.3%)	0 (0%)	1 (0.16%)
	Female	1 (100%)	2 (66.6%)	2 (66.6%)	5 (83.3%)
Age	12	0 (0%)	2 (66.6%)	1 (0.16%)	2 (33.3%)
	13	1 (100%)	2 (66.63%)	1 (50%)	4 (66.6%)
Ethnicity	White	1 (100%)	3 (100%)	2 (100%)	6 (100%)
	Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Grade	7	0 (0%)	1 (33.3%)	1 (50%)	2 (33.3%)
	8	1 (100%)	2 (66.6%)	1 (50%)	4 (66.6%)
Academics	Adv. courses (non-art)	1 (100%)	2 (66.6%)	2 (66.6%)	5 (83.3%)
	Gifted services (any)	0 (0%)	2 (66.6%)	1 (50%)	3 (50%)
	SPED/Title 1 services	0 (0%)	1 (33.3%)	0 (0%)	1 (0.16%)
Current Art Instruction	School Art program	1 (100%)	2 (66.6%)	2 (100%)	5 (83.3%)
	Privately taught lessons	1((100%)	0 (0%)	0 (0%)	1 (0.16%)
Referral by	School art teacher	0 (0%)	3 (100%)	2 (100%)	5 (83.3%)
	Private art instructor	1 (100%)	0 (0%)	0 (0%)	1 (0.16%)

Instruments

A pre-screening questionnaire assessed three componential areas related to perception of personal talent, behaviors indicating prioritization of art activity, and level of actual involvement in art—all relating to overall commitment. Completed questionnaires were analyzed to determine whether the individual's level of talent commitment would align with the purpose of the study. Response items in Part I (Section A) of the questionnaire were assigned a value based on the importance of this attribute to the purpose of study; response items in Part II, (Sections B and C), were Likert-type responses. A threshold score on each of the ten questions in Part I would sum to 32, which equals 70% of the total possible score of 46 across those items. All students scored between 32 and 38 points on these items. As a secondary screening criterion, a raw score of 59 points (again, 70% overall) was established for inclusion in the study. This percentage was chosen as ideal for this study, because few adolescents have demonstrated their talent in ways that reflect their true potential, and to set a higher cutoff would have eliminated those who may show more promise as older adolescents.

The scores of five participants fell within a similar range based on analysis of Part II, (Sections B and C) of the questionnaire, and identified one participant as an outlier related to his interest and ability in digital art. His raw score of only 51—a 60% average score overall—was interpreted as a result of a potential bias in the instrument that had zero questions related to digital art specifically; therefore, he was accepted into the study. Table 4 shows both incremental and aggregated results of the three components of the questionnaire.

Table 4: Pre-screening Questionnaire Results Composite Indicating Participant Commitment to Talent.

Talent Commitment																								
Section	**A. Talent Self-assessment**								**B. Art Behaviors**							**C. Activity Involvement**									**Overall**
Question	**1**	**2**	**3**	**4**	**5**	**6a**	**6b**	**Sub-total**	**7**	**8**	**9**	**10**	**11**	**12**	**Sub-total**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**Sub-total**	
Points	5	5	3	3	5	5	3	29	4	4	4	4	4	4	24	4	4	4	4	4	4	4	4	32	85
Name																									
Lilac	4	5	3	3	5	3	2	25	4	2	2	3	2	3	16	4	3	4	2	2	3	2	4	24	65
E.J.	5	5	3	1	5	3	2	24	3	2	3	2	2	1	13	4	3	4	3	4	4	3	4	29	66
R.F.	5	4	2	0	5	3	0	19	2	1	3	1	1	3	11	3	2	2	1	3	4	2	4	21	51
Rose	5	5	3	1	3	3	0	20	4	2	3	2	2	2	15	4	3	4	4	4	4	5	4	32	67
Daisy	4	5	3	3	5	2	0	22	3	2	2	2	3	3	15	4	4	4	4	3	4	3	4	30	67
Patricia	4	5	3	3	5	2	0	22	3	2	2	3	2	2	14	3	2	3	4	3	4	2	3	24	60
Cross Sec																									
Mean	4.5	4.8	2.8	1.8	4.7	2.7	0.7	22.0	3.2	1.8	2.5	2.2	2.0	2.3	14.0	3.7	2.8	3.5	3.0	3.2	3.8	2.8	3.8	26.7	62.7
Ratio	0.90	0.97	0.94	0.61	0.93	0.53	0.22	0.76	0.79	0.46	0.63	0.54	0.50	0.58	0.58	0.92	0.71	0.88	0.75	0.79	0.96	0.71	0.96	0.83	0.74

The interview protocol was developed using salient, applicable, and field-tested questions from previous studies on talent development (Clark & Zimmerman 1988; Csikszentmihalyi et al., 1997). The interview guide was designed to address very broadly how participants view their own artistic talent; the forces that influenced it; individuals and catalyzing factors that have affected its development; and how it has been encouraged, inhibited, and cultivated in the rural school and community contexts.

Field and reflective notes, as well as analytic memos, provided the triangulation of data to assure validity and accuracy.

Procedure

Findings were initially sorted and compartmentalized by their relationship to a priori codes. A first cycle of holistic coding combined with in-vivo (selective) coding produced several broad topic areas that could be categorized under the a priori code names. For example, "being an artist," "doing art," "having talent," "why I love art so much," or "being able to express myself," were filed under the a priori code name "views of self," related to talent. Figure 3 shows the how simultaneous use of axial and open coding further delineated the larger chunks of data into smaller segments as significant words and phrases were identified across transcribed data. In addition, as new relationships emerged during this first cycle of coding, conceptual mapping (See Figure 4) helped visualize the connections which transcended the a priori code categories, necessitating the assigning of new code names to primary and sub-code categories. Concepts evolved from this process and related to the overarching themes of a) experience of talent; b) tension between talent and responsibility (time); and c) motivation, conditions of adult support/encouragement, and commitment to talent, which were then all categorized as opportunity to develop talent (See Figure 5).

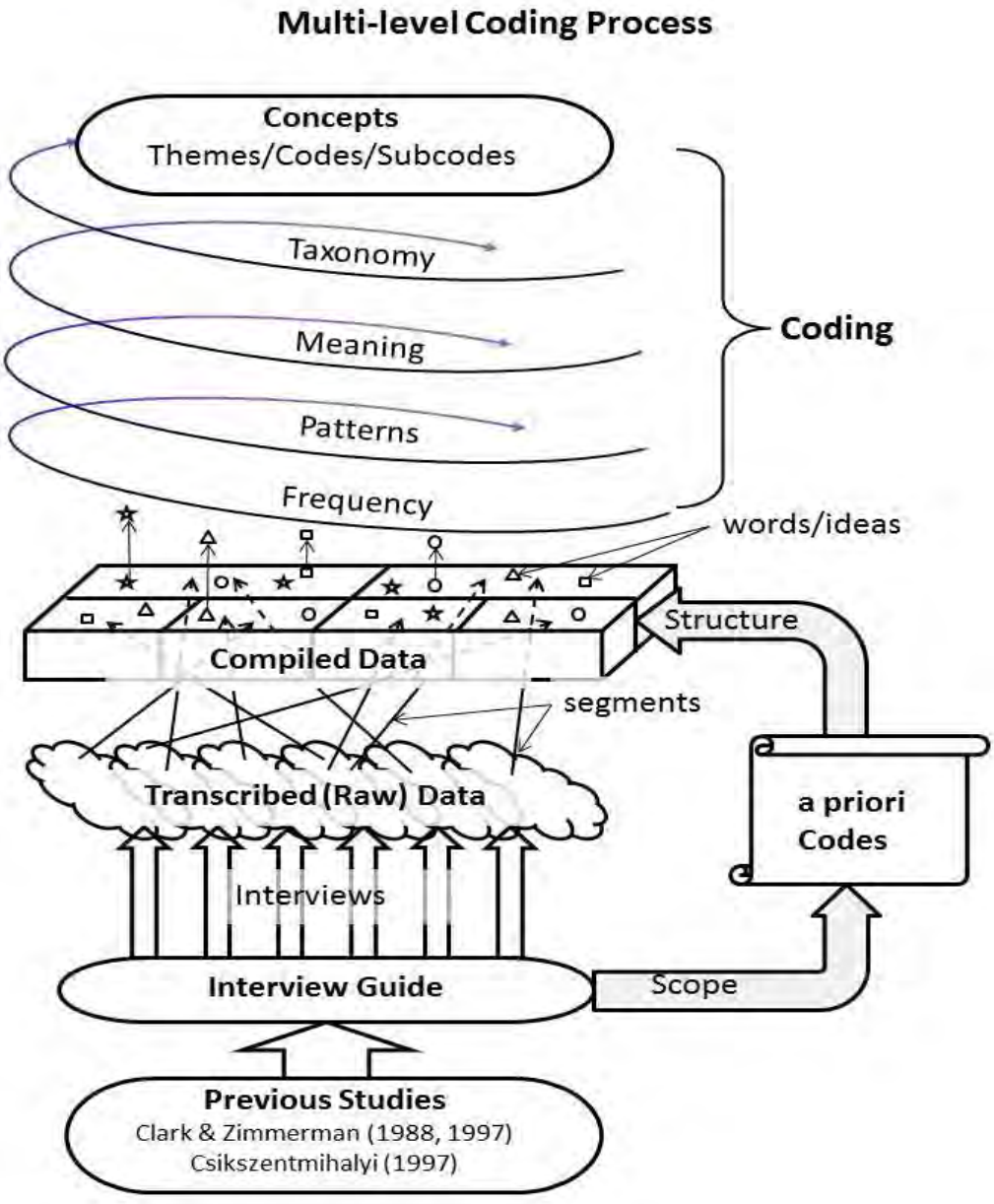

Figure 3: Analytical Process Map Showing Cyclical Multi-level Coding for this Study.

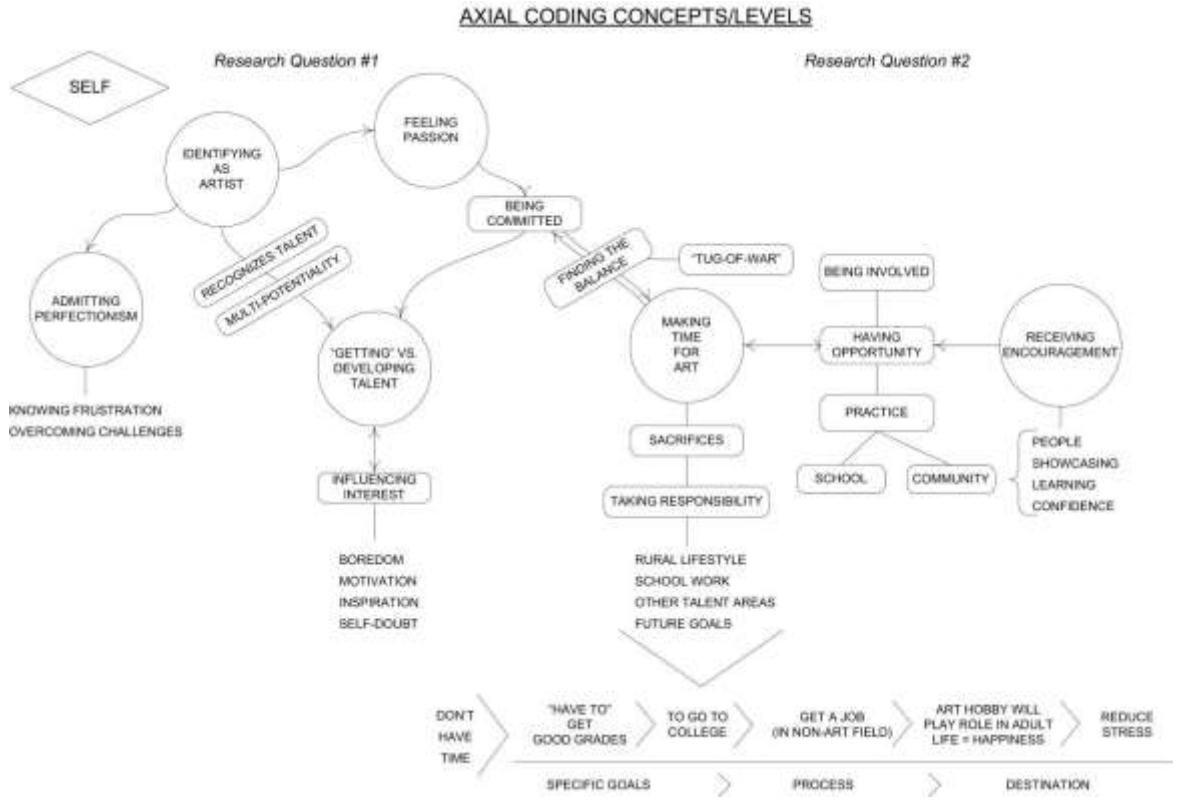

Figure 4: Beginning Concept Formation from First-Cycle Axial Coding.

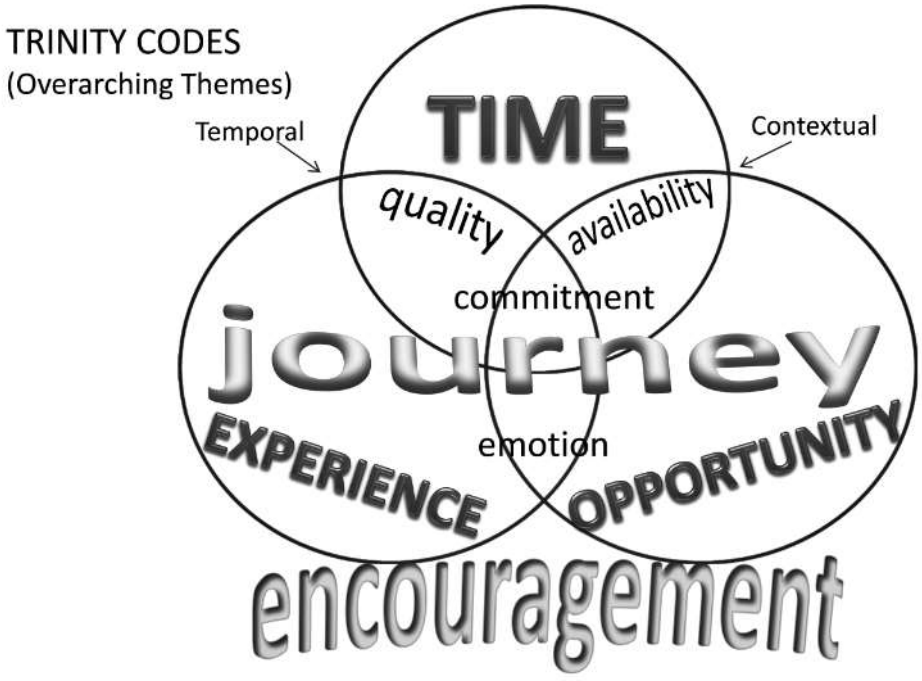

Figure 5: Three Overarching Themes Emerging From Analysis and the Relationship of Other Factors.

Results

All of the students demonstrated talent in more than one domain. Five of them were receiving advanced instruction in academic courses, and three were receiving some type of pull-out gifted

services. One was enrolled in Title 1 Math. Table 5 breaks down advanced ability across domains for the participants. An X in the subject row indicates some type of advanced ability/accelerated coursework. A star (*) in the subject row indicates recognized talent with gifted or advanced instructional services being offered in that specific subject. A star beneath the participant's name indicates the student is receiving gifted services but no mention of which specific subjects. Initial analysis showed more similarity overall among the adolescents; however, collective case analysis revealed distinct differences.

Table 5: Indicators of Multi-potentiality in Study Participants.

Specific Talent Area Other than art (indicated where no gifted services apply)	**School A**	**School B**			**School C**	
	Lilac	EJ	RF*	Rose	Daisy	Patricia
Math	X				*	*
Instrument				flute	X	violin
Dance					ballet	X
Science	X				X	*
History	X				X	
Language arts					*	
Writing Poetry					X	X
Sports				track	X	X

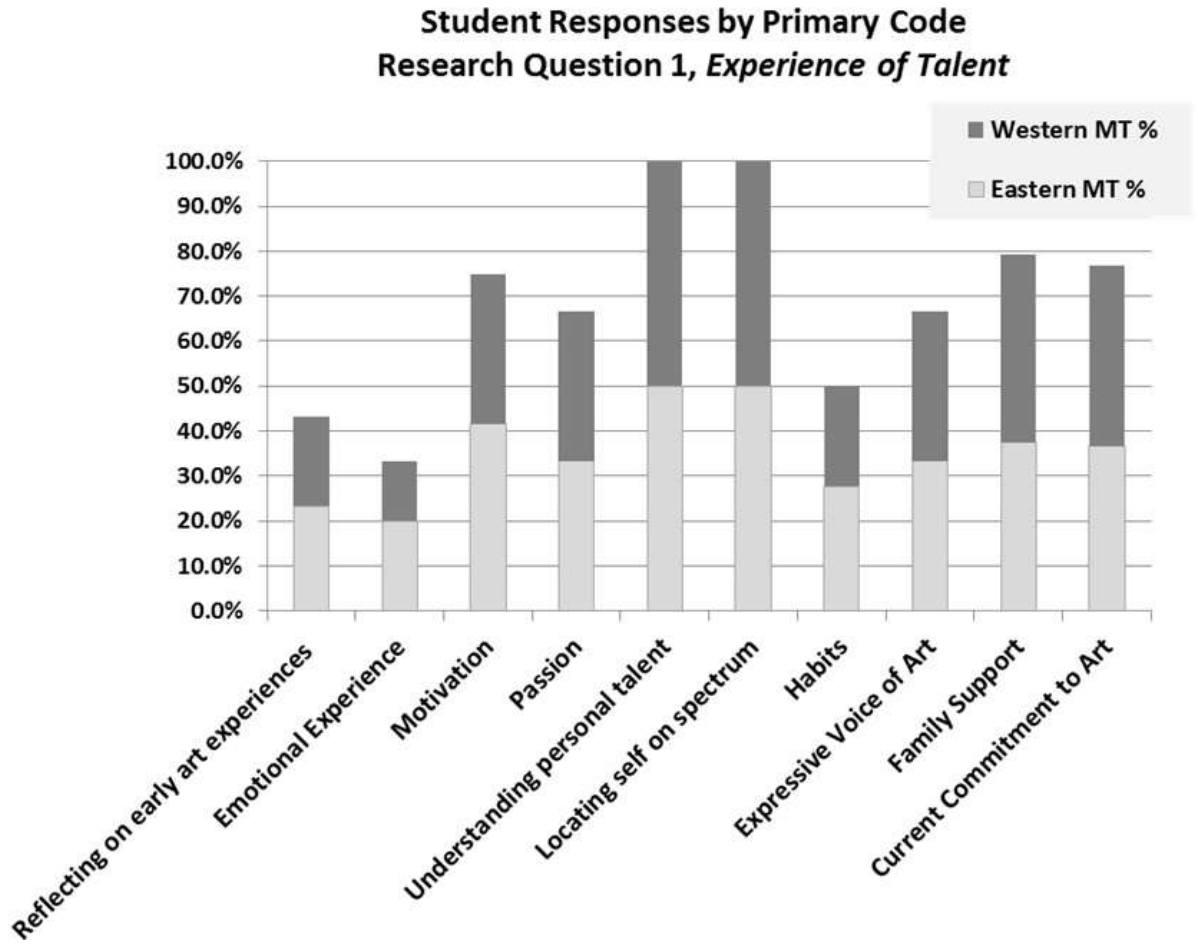

Figure 6: Participant Response Frequencies Corresponding to Code Categories for Question 1.

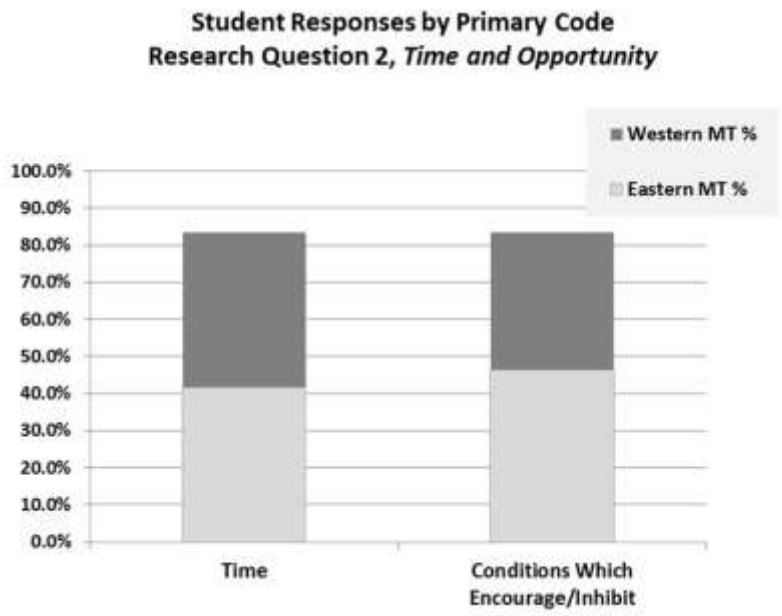

Figure 7: Participant Response Frequencies Corresponding to Code Categories for Question 2.

Discussion

Insight into the artistic journeys of the adolescent participants derived from the primary themes that were identified during analysis.

Emotional Connections to Art Experiences

Students were all able to recall being interested in art from pre-school or early elementary school, and they remembered specific people or events as triggers for their interest in art (Clark & Zimmerman, 1988). For all students, those art experiences perceived as optimal appear to have energizing effects on the continued engagement in art activities and serve as a strong predictor of future commitment, thus potential to develop talent. Findings confirmed that participants based their impressions of their talent on the value they placed on the expressive or emotional rewards derived from the activity. Although some of the participants did perceive art to be useful, that criteria did not place high on the scale of what motivated them to persist (Csikszentmihalyi, et. al, 1997).

Differences were noted among the cases regarding the type of emotional connections students recalled for those first art experiences. Students who reflected on art lessons in school viewed those experiences more negatively; while those whose earliest memories of art included family members, viewed first art experiences in a more positive light. A redeeming factor was that as students built a repertoire of experiences related to art practice and recalled those experiences as enjoyable, their emotional connection became more positive overall.

Students all indicated that a need to do well in school and get good grades was a top priority for them as prospective college students. This directly related to the perspective projected by the educational community (and to some degree, parents—who even while supporting their children's talent—encouraged a career outside of art for stability and security) that STEM courses are more useful and require more discipline and dedication of time and energy. Even when subtle (forwarded through policy and scheduling), the message students get is that art is an enterprise that can be undertaken on one's own time and is therefore valued less in the educational context. For the adolescents, this often meant pursuing their art in the less hostile environments that existed outside the classroom (Bolster, 1990). However, developing talent requires a synergistic combination of rewards that are both expressive and instrumental (Csikszentmihalyi et. al., 1997). Though they expected to

retain their art interest as adults potentially interweaving art with their professional work, most students in the study did not foresee themselves choosing a career relying solely on art. None, however, directly alluded to being influenced by their parents in their choices.

The Power of Expressive Voice

Adolescents found it especially rewarding to discover their voice through the expressive properties in art. Even those who were less than certain about having their creations exhibited for others to judge felt the immense power of being able to unleash emotion and communicate an understanding of their world through visual means.

All of the study participants felt art provided an avenue to being valued, heard, and understood that would be otherwise inaccessible to them. Whether through doodles or more elaborate pieces, art provided a spectrum for the adolescents to make meaning that could be represented and shared (Eisner, 2002). Giving others a window into their soul—their "truth" about the world that surrounds them—offered a significant boost to their psyche and incentivized continued engagement in art. Researcher-observation data revealed the importance of self-expression to the participants through demonstrations of increased animation, change in voice pitch, and changes in body language while they shared their impressions of what art meant to them. Artistic expression had the capability of offering a freedom that was not experienced in other classes or contexts. How that freedom was interpreted varied among the adolescents.

Impact of Family on Talent

Encouragement from family is of great import to the overall talent development trajectory of the rural adolescents. Findings validate research related to the aspect of stimulation in the early environment being critical to the complex development of talent (Csikszentmihalyi et al., 1997). All students drew inspiration for early involvement in art from an immediate or extended family member; all of them named multiple family members who had some influence on their continued interest in art; and four credited at least one parent for some of that influence. In terms of support that families provided, the study showed that while every student had access to the private space of their rooms to engage in art, none had a studio-like environment within which to work, which aligns with the findings in the Clark and Zimmerman study (1988). All participants believed family provided sufficient encouragement and support for their talent.

Only one of the adolescents had taken art outside of school; however, several were involved in extra-curricular activities and two were taking lessons related to other arts: dance and music. Interesting to note, is that all of the students who were enrolled in extra-curricular instruction outside of school resided in western Montana in Schools A and C where census statistics show the median income to be on average 8% below the county in eastern Montana where School A is located. This may relate to a greater amount of discretionary income being available in households owning family businesses not related to farming—an occupation with fluctuating profit margins highly dependent upon multiple variables which are out of the control of the individual farmer. It could also be related to the communities' closer proximity to larger towns that do not require long-distance travel costing extra time and fuel. Wealth in terms of assets for farmers did not translate to expendable income.

Time

An unexpected outcome emanating from the study was the common belief across all six cases that lack of time to spend on art inhibited their talent development. All of the students were well aware that without sustained practice, skills do not improve and mastery is not achieved (Gladwell, 2008; Syed, 2010). Two predominant explanations were offered: a rural lifestyle and the amount of study time required to make good grades in school.

The rural lifestyle related to several underlying issues: a) students in rural areas typically do not live within walking distance of school, extra-curricular activities are not always in the same town where the student lives, and sports events require travel to another town, often half the state away—

meaning time away from home depletes available time a student has to engage in art; b) family-owned businesses are common in Montana rural areas, and their operation (especially in the case of the farming occupation) typically includes all members of the family limiting discretionary time at home even on weekends and holidays.

With relation to study time, all of the participants claimed to have as a primary goal, getting good grades and to be competitive for acceptance to college even if they had not narrowed down a career path. For the five adolescents who were enrolled in a school art class, scheduling was blamed for having little or no time to generate personally meaningful art. Doodling was a primary art activity for over half of the participants at school during "boring classes" or at home in between other responsibilities and was viewed as enjoyable and "fun." After school, aside from any extra-curricular activities including attending siblings' sporting events together with the family, the amount of homework and hours required to prepare for tests in advanced courses consumed the bulk of their remaining time. Even though all of the students referred to how "busy" their lives were and expressed disappointment that they had little time for art, it was a fact they took in stride as necessary to preparing for college and a career. Rather than journeying on "the road less traveled," adolescents appeared to be racing on a mapped-out path toward specific destinations: college, a job, and security with art taking a back seat. Interestingly, finding more time to engage in their art was something all of the students longed for, but none of them felt was within their control to change. They did tend to choose art over other optional activities when they *have* a choice however, it was difficult to ascertain the percentage of their discretionary time that was allocated to art. One student offered a "guesstimate" that it was approximately 1½ to 2 hours per week (not including art classes) that accumulated over several smaller sessions that were devoted to art. Bearing this in mind, students were asked during fact-checking, to contemplate possible impacts of educational aims focused more on time spent developing individual strengths and talents than in getting all students to a standard level of proficiency in all subjects. Two of the participants believed it would be more beneficial to the individual; one of the two also believed the potential to derive social benefit ("make a difference in the world in some way") would be greater. The student who preferred digital to more traditional art mediums, while not believing that individual strengths necessarily needed to be accommodated in school, did express chagrin that computers were not utilized more in school art classes to customize art lessons to students' preferences.

Culture of Technology

All of the participants owned or had access to computers at home, which was not a factor in the two previous studies (Csikszentmihalyi et al., 1997; Clark & Zimmerman, 1988).Findings revealed that (like those in the study by Clark & Zimmerman, 1988 artistically gifted adolescents had difficulty finding friends or classmates who shared their interest in art, but unlike the previous research, computers offered adolescents in this study instant access to YouTube art tutorials or online galleries from which to draw inspiration rather than spending time socializing when they had free time. On the one hand, a drawback for these rural students—especially because at ages 12 and 13, they must rely on others to transport them into town—was that they had less opportunity to actively view, discuss, and participate in art with like-minded individuals in their own communities. On the other hand, the internet became the community to which these students belonged and felt comfortable. Moreover, because artistically gifted adolescents tend to prefer doing art alone rather than in a group, this may have offered a richer learning opportunity. Increasing the chance that students find appropriate resources to develop their talent, today's technological capabilities make access to distant sources of advancement and enrichment more likely. All of the students in the study believed the computer was an effective tool for learning and did not view it as a replacement for in-person events but rather a resource that was customizable to their individual art interests.

Timeline of Opportunity

Findings showed that three of the study participants believed few opportunities were open to them as middle school students but would be available when they reach high school or beyond. They assumed this was a part of the natural progression of growing up and accepted it without question.

Nevertheless, they were able to identify opportunities they looked forward to as high school students. This is an example of the opportunity cost of lost potential that could have served both individual and society if the factors of increased brain growth (offering a window for new knowledge and skill-building) and importance of offering experiential learning (critical to adolescents' executive and social functioning) had not been ignored (Barnea-Goraly et al., 2005; Blakemore & Cloudhury, 2006; Casey et al., 2010; Casey, Giedd, & Thomas, 2000).

The similarities relating to artistic giftedness revealed that all of the students:

- Reported an individual love of art;
- Related emotional connections to experience which keep them interested in drawing;
- Felt empowered by the personal voice derived from the expressive quality of art;
- Believed family encouragement and support were sufficient at this time in their lives, to incentivize active engagement in art including the fact that all students had at least one relative who did art;
- Had a private space for doing art at home though it was not studio-like;
- Had a limited number of same-age peers who share their interest in art which tended to seclude them from like-minded individuals with whom to collaborate, discuss, and critique artworks;
- Perceived little opportunity for critiquing own work;
- Excluded art teachers as encouragers of talent; stated that teachers critiqued but did not offer guidance for improvement;
- Admitted they were largely "self-taught";
- Claimed posters assigned by teachers were the primary outlet for expression in non-arts classes;
- Identified constraint of time impacted hours spent on art practice;
- Experienced no differentiation for artistic talent; and,
- Utilized the internet as a primary resource for instructional support associated with art forms, techniques and styles their local art class and community did not offer.

Differences related to how personal time was allocated whether or not students were enrolled in any type of art class; whether or not they believed their community offered enough art-related opportunities; whether they were receiving advanced academic and art instruction; the extent of their multi-potentiality; and how they perceived future commitment to art. Minor differences were observed between perceptions of the adolescents in the eastern Montana community (School B), and the two western Montana communities (School A and C). In School B the students exclusively:

- Referred to their drawing as "doodling";
- Believed no opportunities existed until high school age;
- Had little awareness of venues exhibiting art in their town;
- Had not enrolled in activities outside of school;
- Had very few art supplies at home; and,
- Had no books about art or showing famous artwork (with the exception of a watercolor demonstration that came with a kit).

The majority of students in Schools A and C located in western Montana:

- Talked about their work as drawing or art;
- Believed opportunities were generally available through school or the community to showcase art, if desire and time permitted;
- Had an awareness of several galleries and summer offerings for art;
- Had enrolled in private lessons outside of school for art and other talent areas;
- Had art supplies at home; and,
- Had at least one art book.

Some of these differences may relate to regional characteristics associated with eastern and western Montana where they are situated. Eastern Montana towns are widely distributed across the open plains; social networks are smaller, families are strong, agriculture is the primary industry with

most families engaging in farming, and the area boasts an 8-10% higher per-capita income than the western portion of the state. Western Montana thrives on tourism related to nationally acclaimed trout streams, forested and mountainous land, big game hunting, skiing and other winter sports, two integrated biomedical/biohazard research facilities, a photonics hub (employing world-class scientists), and more populous, creative enclaves. Both areas house four-year universities and private colleges.

Conclusion

The artistic journeys of the adolescent participants demonstrate that families are of primary importance in the initial instigation of artistic pursuit and motivation to repeat art experiences. But by late adolescence, if support is not forthcoming by schools and communities, the level of commitment held to by these students begins to wane. Three limitations were encountered in this study: a) the inadvertent omission of digital or web-based art or design as one area of high ability as criteria for referral; b) an unintended emphasis on traditional art forms in the screening questionnaire which was reflected in student responses; and c) a gender imbalance resulting in female preference among participants which may have been reflected in findings; and should be considered when conducting future research. However, this study brought to light a particularly important gap in research related to artistic talent development that needs to be investigated: the factor of time.

While passion relates to commitment to the talent area, this study did not produce direct evidence of passion. The factors of passion for the area of artistic talent and time available to invest in developing the talent are two areas that could benefit from future research. Findings illuminated adolescent perceptions that their rural communities, their teachers, and their schools in general, do not encourage or support their artistic talent, causing them to resort to accessing online communities to obtain feedback from like-minded high-ability individuals.

In this era of fast-changing, highly globalized commercialization of ideas, study findings confirmed some of the positive aspects of previous research about artistic talent while painting an entirely new representation of the social, political, and educational landscape that affects the development of artistic talent today. The current climate in education does not support the building of individual strengths even though local, state, and international conditions demand it.

References

Barnea-Goraly, N., Menon, V., Eckert, M., Tamm, L. Bammer, R., Karchemenskiy, A., Dant, C. C., & Reiss, A. L., (2005). White matter development during childhood and adolescence: A cross-sectional diffusion tensor imaging study. *Cerebral Cortex, 15*, 1848-1854.

Blakemore, S-J., & Choudhury, S., (2006). Development of the adolescent brain: Implications for executive function and social cognition. *Journal of Child Psychology and Psychiatry, 47*(3), 296-312.

Bloom, B. S., & Sosniak, L. A. (1981). Talent development vs. schooling. *Educational Leadership, 37*, 86-94.

Bolster, S. J. (1990). *Collaboration on curriculum.* Paper presented at the Rural Education Symposium of the American Council on Rural Special Education and the National Rural and Small Schools Consortium, Tucson, AZ.

Callahan, C. (2009). Giftedness, definition. In B. Kerr *Encyclopedia of giftedness, creativity and* Casey, B. J., Giedd, J. N. & Thomas, K. M. (2000). Structural and functional brain development and its relation to cognitive development. *Biological Psychology, 54* (1-3), 254-257.

Casey, B. J., Giedd, J. N. & Thomas, K. M. (2000). Structural and functional brain development and its relation to cognitive development. *Biological Psychology, 54* (1-3), 254-257.

Casey, B. J., Soliman, F., Bath, K. G., & Glatt, C. E. (2010). Imaging genetics and development: Challenges and promises. *Human Brain Mapping, 31,* 838-851.

Clark, G. & Zimmerman, E. (1988). Views of self: Family background and school interviews with artistically talented students (with Gil Clark). *Gifted Child Quarterly, 32*(4), 340-346.

Clark, G., & Zimmerman, E. (1999). You'll never find artistically talented students in that rural community: Art talent development in rural schools. In A. Nyman (Ed.), *Issues and approaches to art students with special needs* (pp. 87-97). Reston, VA: National Art Education Association.

Colangelo, N., Assouline, S. G., Baldus, C. M., & New, J. K. (2003). In N. Colangelo & G. A. Davis, (Eds.), *Handbook of gifted education* (3rd ed., pp. 572-581). New York, NY: Pearson.

Csikszentmihalyi, M. (1988). Society, culture and person: A systems view of creativity. In R. J. Sternberg (Ed.), *The nature of creativity: Contemporary psychological perspectives* (pp.325-339). Cambridge, NY: Cambridge University Press.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention.* New York, NY: Harper-Collins.

Csikszentmihalyi, M., Rathnude, K., & Whalen, S. (1997). *Talented teenagers: The roots of success and failure.* Cambridge, UK: Cambridge University Press.

Dai, D. Y., & Schader, R. M. (2002). Decisions regarding music training: Parental beliefs and values. *Gifted Child Quarterly, 46,* 135-144.

Eisner, E. W. (2002). *Arts and the creation of mind.* New Haven, CT: Yale University Press.

Evans, R. J., Bickel, R., & Pendarvis, E.D. (2000). Musical talent: Innate or acquired? Perceptions of students, parents, and teachers. *Gifted Child Quarterly, 44*, 80-90.

Gagné, F. (2008). *Building gifts into talents: Overview of the DMGT 2.0*. Retrieved from http://nswagtc.org.au/images/stories/infocentre/dmgt_2.0_en_overview.pdf

Getzels, J. W., & Csikszentmihalyi, M. (1976). *The creative vision: A longitudinal study of problem-finding in art.* New York, NY: Wiley Interscience.

Gladwell, M. (2008). *Outliers: The story of success.* New York, NY: Little, Brown & Company.

Hennessey, B. & Amabile, T. (2010). Creativity. *Annual Review of Psychology 61,* 569-598.

Howley, A., Howley, C. B., & Pendarvis, E. D. (2003). Talent development in rural communities. In J. H. Borland, (Ed.), *Rethinking gifted education* (pp.80-104). New York, NY: Teachers College Press.

Howley, C. (2009). The meaning of rural difference for bright rednecks. *Journal for the Education of the Gifted, 32*(4), 537-56.

Katzko, M. W. & Mönks, F. J., (Eds.). (1995). *Nurturing talent: Individual needs and social ability.* Assen Netherlands: Van Gorcum.

Khatena, J. (1992). *Gifted: Challenge and response for educators.* Itasca, IL: Peacock.

Kim, K. H. (2012, April). The Creativity Crisis. Lecture delivered to the University of Georgia Torrance Lecture Series, Athens, GA. Retrieved from https://www.youtube.com/watch?v=clDZLfwzDok&feature=youtu.be

Montana Office of Rural Health. (2012). *Defining frontier*. Retrieved from http://healthinfo.montana.edu/MTHWAC/ Frontier%20Definition%20 Draft%20Briefing%20Paper.pdf

National Association for Gifted Children (2008). *Frequently asked questions.* Retrieved from http://www.nagc.org/index2.aspx?id=548

National Association for Gifted Children (2012). *State of the Nation in Gifted Education: Work yet to be done.* Retrieved from: http://www.nagc.org/uploadedFiles/Gifted_by_State/state_of_states_201213/4082%20NAGC%20State%20of%20the%20Nation%202013-5.pdf

Pink, D. (2005) *A whole new mind: Why right brainers will rule the future*. New York, NY: Riverhead Books.
Plucker, J. A., & Barab, S. A. (2005). The importance of contexts in theories of giftedness: Learning to embrace the messy joys of subjectivity. In R. J. Sternberg, & J. E. Davidson (Eds.) *Conceptions of giftedness* (2nd ed., pp. 201-216). New York, NY: Cambridge University Press.
Rakow, S. (2005). *Educating gifted students in middle school*: *A practical guide*. Waco, TX: Prufrock Press.
Reis, S. M., & Renzulli, J. S. (2010). The schoolwide enrichment model: A focus on student strengths and interests. *Gifted Education International, 6*(2-3), 140-157.
Renzulli, J. S. (1978). What makes giftedness? Reexamining a definition. *Phi Delta Kappan, 60*, 180-184, 261.
Renzulli, J. S., & Reis, S. M. (1985). *The schoolwide enrichment model: A comprehensive plan for educational excellence*. Mansfield Center, CT: Creative Learning Press.
Renzulli, J. S., & Reis, S. M. (2014). *The schoolwide enrichment model: A how-to guide for talent development.* Waco, TX: Prufrock Press.
Robinson, K. (2010, Feb). *Bring on the learning revolution*, (Video file). Retrieved from: https://www.ted.com/talks/sir_ken_robinson_bring_on_the_revolution?language=en
Rolling, J. H. (2013). *Swarm intelligence: What nature teaches us about shaping creative leadership.* New York, NY: Palgrave Macmillan.
Subotnik, R. F., Olszewski-Kubilius, P., & Worrell, F. C. (2011). Rethinking giftedness and gifted education: A proposed direction forward based on psychological science. *Psychological science in the public interest, 12*(1). 3-54.
Syed, M. (2010). *Bounce: The myth of talent and the power of practice*. New York, NY: Harper Collins.
Talbot, A. (2009). *Rural arts education: A community approach to addressing government policy and partnerships in Illinois rural schools*. Retrieved from: https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/10080/Ann%20Talbott%20Capstone.pdf?sequence=1
U.S. Census Bureau. (2010). *Urban and rural classification and urban area criteria.* Retrieved from http://www.census.gov/geo/reference/ua/urban-rural-2010.html
Vygotsky, L. (1978). Interaction between learning and development. In M. Cole, V. John-Steiner, S. Scribner and E. Souberman (Eds.), *Mind in Society*: *The development of higher psychological processes* (pp. *79-*82). Cambridge, MA: Harvard University Press

About the Author

Dr. Gayle Roege is a partner at Creative Erg. LLC., consulting agency, focused on the partners' shared interests in education, art and design, engineering, creativity, energy, and resilience, to disrupt the status quo through research, consultation, and teaming to find innovative solutions to today's problems and tomorrow's needs. She is a member of the NAGC Arts Network, served as Legislative Chair for Montana Association for Gifted and Talented Education for two years; served on the Montana Office of Public Instruction decennial standards review and policy revision committees for pre-service teacher standards in visual art, and gifted education; and student standards for visual art in Montana. As an artist and veteran educator, her current focus centers on providing alternative pathways to talent development for youth through community-centered experiential, entrepreneurial learning opportunities. Findings from this study, based on her doctoral research, were presented at the 13th International ICIE Conference on Excellence, Creativity and Innovation in Basic and Higher Education, on May 20, 2016.

Address

Gayle Roege, Ed.D
Creative Erg, LLC.
1252 Sapphire Ranch Trail
Corvallis, MT 59828
e-Mail: gayle@roege.net